

## MAMMOMAT Novation

SP

### Maintenance Protocol System

**Customer:**

**Address:**

**Department:**

**Room:**

**Contact person:**

**Telephone:**

**Customer no.:**

**Cust. specific no.:**

**Date.:**

The instructions SPB7-250.831.01.02.02 is required for  
these protocol

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<b>SIEMENS Office:</b>	
<b>Address:</b>	
<b>Region:</b>	
<b>Country:</b>	
<b>Contact person:</b>	
<b>Tel.:</b>	
<b>CSE in charge:</b>	
<b>Tel.:</b>	

#### Remarks Regarding the Protocol:

The protocol is valid as proof of quality for **one** check that must be performed on the system / component in one year.

The check must be performed in the specified intervals.

The results of the check are entered in this protocol.

The page numbers after the checkpoints refer to the corresponding page in the appropriate instructions (see cover page).

The protocol must be completely filled out by the Customer Service Engineer, i.e.:

- All boxes must be filled out. If a box does not apply to the system or if no entry needs to be made, check the "n.a." box.
- Enter the customer number (Cust. No.:) and the date of the check in the header of each page so that each page can be allocated to a customer and to a check date.
- If there are complaints, the IVKs for the component about which a complaint has been made as well as the type of complaint must be entered in the "Open Points" table provided for this. Correction of these open points also must be documented in this table with the date and a signature. If there are no open points, check "No" and document this with the date and a signature.
- If movable components (also test phantoms that are part of the system) that can be used in different systems are used for the check, they must be entered in the "Movable Components" table provided for this.
- The measurement values for the measurements that must be performed during the check must also be entered in the open spaces / tables provided for them.
- After completing the check, Page 3 of this protocol must be filled out and signed.

**Further Processing and Archiving of the Protocol**

The protocol is a document and thus must be archived. After completing the test, it must be filed in the corresponding register in the "System Owner Manual" binder. If needed, a copy can be handed to the customer.

<b>System:</b>	
<b>Serial No.:</b>	
<b>Software Version:</b>	
<b>Number of the Service Contract:</b>	
<b>Type of Maintenance:</b>	

**Evaluating the Condition of the System / Component**

The system has no deficiencies. The image quality test resulted in no differences from required reference values.	
The system / component has slight deficiencies that have no affect on continued operation of the system. However they should be corrected preventively.  The image quality test resulted in no differences from required reference values.	
The system / component has serious deficiencies. For safety reasons, continued operation of the system is permitted only after successfully correcting the deficiencies.	

**After completing all work steps, an evaluation was performed.**

<b>Date:</b>	<b>Name of Technician:</b>	<b>Signature:</b>

The operator or a person assigned for this has taken note of this evaluation.  
(if national regulations require this)

<b>Date:</b>	<b>Name:</b>	<b>Signature:</b>

**Explanation of Abbreviations in the Protocol**

Abbrev.	Explanation	Abbrev.	Explanation
SI	Safety Inspection	PMF	Preventive Maintenance, Operating Value Check, Function Check
SIE	Electrical Safety Inspection	Q	System Quality, Image Quality
SIM	Mechanical Safety Inspection	QIQ	Image Quality
PM	Preventive Maintenance	QSQ	System Quality Check
PMP	Periodic Preventive Maintenance	SW	Software Maintenance
PMA	Preventive Maintenance Adjustments	CSE	Customer Service Engineer

**Activities performed**

Only additional activities that are not described in the instructions for the system / component need to be listed.

Activities performed:		Date:	OK	not OK	n.a.

**Open Points**

Yes                    No                    Date / Signature: \_\_\_\_\_

If "Yes", enter the component with the IVK and the open point (only the number) in the table. After completing maintenance, record this in the table.

IVK	Component	Open Points	Completed	
			Date	Signature

**Measuring Devices**

If the measurement devices are sensed electronically, for example with a “scout”, entry of the measuring devices in the table can be skipped.

Measuring devices electronically sensed?

Yes

No

Date / Signature: \_\_\_\_\_

Measuring Devices	Type	Serial No.	Date Used	Next Calibration Due

**Movable Components**

Yes

No

Date / Signature: \_\_\_\_\_

If “Yes”, enter the movable component with which the check was performed along with the with the Serial No. in the table.

Movable components (also test phantoms that are part of the system) are parts that can be used on different systems).

Component	Serial No.

- 1 General information**
  - 1.1 Training**
  - 1.2 Required documents**
  - 1.3 Required tools, measurement and auxiliary devices**
  - 1.4 Required lubricants**
  - 1.5 Text emphasis**
  - 1.6 Safety Information and Preventive Measures**
  - 1.7 Explanation of abbreviations**
  - 1.8 Symbols**
- 2 System**
  - 2.1 Checks**
    - PMP Radiation protection
    - PMP Face shield and compression plate
    - SIM Level
    - SIM Swivel arm attachment
    - SIM Basic table
  - 2.2 Preparations**
    - SIE Cables
- 3 Column stand**
  - 3.1 Checks**
    - SIM Steel ropes
    - PMA Oil and grease
    - SIE Limit switches
    - PMF Vertical travel
    - SIM Safety catch and rotation safety catch
    - SIM Ball bearings
    - SIM Mounting for the X-ray tube
    - PMA Grease the grid spindle
- 4 Compression and system movements**
  - 4.1 Testing the “compression” function**

**4.1.1      Compression cutoff**

PMF      Presetting  
SIE      Max. value for cutoff  
PMF      OPCOMP

**4.2      Testing the “decompression” function****4.2.1      Decompression cutoff**

SIE      Safety switch

**4.2.2      Travel**

PMF      Compression travel

**4.2.3      Applying oil and grease**

PMA      Oil and grease the compression unit

**4.3      Compression thickness display**

PMF      Thickness indicator

**4.4      Checking miscellaneous system movements**

SIE      Rotation cutoff  
PMF      Rotation movements  
SIM      Blocking the rotation and vertical travel

**5      Test exposures****5.1      Evaluating test values**

PMF      Anode acceleration  
PMF      kV and mA  
PMF      mAs selection  
PMF      mAs value displayed  
PMF      Grid voltage  
PMF      Signal lamp  
PMF      Chest wall missed tissue  
PMF      Spatial resolution  
PMF      Mean glandular dose

**5.2      BIAS voltage check**

PMF      The BIAS voltage settings shall be checked.

**5.3      Testing dose rate control**

PMF      Dose rate control

**5.4      Testing the radiation field/ light field**

PMF      Collimator check

**6      Miscellaneous**

**6.1 Blocking exposure release**

PMF Blocking

**6.2 Checks**

SIE Emergency STOP  
PMF Indicators  
PMP Error memory  
PMP Record error memory  
PMP Delete the error memory  
PMF Auxiliary voltages  
PMF OPDOSE  
PMA UIs and SPEED Infos

**6.3 Quality**

Q Monitor check and viewing conditions  
Q Printer check  
QIQ Phantom image quality check  
QIQ Detector uniformity  
QIQ Beam quality (HVL)  
QIQ AEC image stability, repro and signal-to-noise (SNR)  
QIQ Ghost image evaluation

**6.4 Final tests**

PMF Operating problems  
PMP Covers  
SIE Protective conductor test  
PMP Cleaning / Damaged paint  
SQS Final test exposure